

5 A program contains a global 1D array `Data` with 100 elements of type `INTEGER`.

The program contains a function `Process()` expressed in pseudocode as follows:

```
FUNCTION Process(Number : INTEGER, Label : STRING) RETURNS STRING
  DECLARE Index, Count : INTEGER
  DECLARE ReturnValue : STRING

  Count ← INT(100 / Number)
  Index ← Data[Index]

  CASE OF (Index MOD 2)
    0 : ReturnValue ← TO_UPPER(RIGHT(Label, Count))
    1 : ReturnValue ← "*****"
  ENDCASE

  RETURN RetVal
ENDFUNCTION
```

(a) Run-time errors can be generated in different ways. For example, a run-time error will be generated if a function is called with invalid parameters.

The pseudocode contains three statements that could generate a run-time error.

Write the **three** statements **and** explain how each could generate a run-time error.

Statement 1 .....

Explanation .....

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Statement 2 .....

Explanation .....

.....

Statement 3 .....

Explanation .....

.....

[3]

(b) One type of run-time error can cause a program to stop responding ('freezing').

Identify a particular type of programming construct that can generate this type of error **and** explain why it occurs.

Construct .....

Explanation .....

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[2]

(c) The function `Process()` contains a selection construct using a `CASE` structure.

Write pseudocode using a single selection construct with the same functionality **without** using a `CASE` structure.

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[2]